

#17
OIPE

RAW SEQUENCE LISTING

DATE: 08/15/2001

PATENT APPLICATION: US/09/272,835B

TIME: 06:46:53

Input Set : A:\GENENT.065Anewest.txt

Output Set: N:\CRF3\08132001\I272835B.raw

ENTERED

P.5

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4 <110> APPLICANT: De Sauvage, Frederic J.
5     Klein, Richard D.
6     Rosenthal, Arnon
7     Phillips, Heidi S.
9 <120> TITLE OF INVENTION: GFALPHA3 AND ITS USES
12 <130> FILE REFERENCE: GENENT.065A
14 <140> CURRENT APPLICATION NUMBER: 09/272,835B
15 <141> CURRENT FILING DATE: 1999-03-19
17 <150> PRIOR APPLICATION NUMBER: 60/079,124
18 <151> PRIOR FILING DATE: 1998-03-23
20 <150> PRIOR APPLICATION NUMBER: 60/081,569
21 <151> PRIOR FILING DATE: 1998-04-13
23 <160> NUMBER OF SEQ ID NOS: 25
25 <170> SOFTWARE: FastSEQ for Windows Version 4.0
27 <210> SEQ ID NO: 1
28 <211> LENGTH: 387
29 <212> TYPE: DNA
30 <213> ORGANISM: Mus musculus
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34 tacacagcaa cccggaacca accaggcatt ccgcagcaca tcccgtctgc tccagaagag 120
35 gtcttagaag tgagggctgt gacccttccg atcctgagcg gctagttttc aaacctccct 180
36 tgcccctgct tccttctggc tcaggctgct cctccttagg actttgtggg tccagttttg 240
37 ccttctgttc tgatggtgat tagcggctca cctccagcgc ttcttcctgt tcccaggac 300
38 caccagagg ctaaggaatc agtcattccc tggtgccttc tccaggaagg caggctaagg 360
39 gttctgaggt gactgagaaa aatgttt 387
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42 <211> LENGTH: 353
43 <212> TYPE: DNA
44 <213> ORGANISM: Mus musculus
46 <400> SEQUENCE: 2
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48 tcctggagcc cgcgacctcc actgctgatg atcctgctac tgggtgctgc gttgtggctg 120
49 ccacttggag caggaaactc ccttgccaca gagaacaggt ttgtgaacag ctgtaccag 180
50 gccagaaaaga aatgcgaggc taatcccgtc tgcaaggctg cctaccagca cctgggctcc 240
51 tgcacctcca gttaagcagg ccgctgccct tagaggagtc tgccatgtct gcagactgcc 300
52 tagaggcagc agaacaactc aggaacagct ctctgataga ctgcaggtgc cat 353
54 <210> SEQ ID NO: 3
55 <211> LENGTH: 498
56 <212> TYPE: DNA
57 <213> ORGANISM: Mus musculus
59 <400> SEQUENCE: 3
60 aattcggaac gaggtggaag gagcttcgca agtcccaagg ccctttggaa gtcgctgaag 60
61 ctgccgtcag ccaatccagt ggactcgag ccaaatttgt catccactgt cacatcccc 120
62 agtgggactc cgacaaatgt gaagaacagc tggaagagac catcaaaaac tgcctgtctg 180
63 cagcagagga caagaagctt aaatccgtcg ccttcccacc gttccccagt ggcagaaact 240
64 gcttccccaa acagacggcc gccaggtga ccctcaaggc catctcggt cacttcgacg 300

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65 actcgagctc gtcctcgctg aagaatgtgt acttcctgct cttcgacagc gagacatcgg 360
66 catctacgtg caggagatgg ccaaactgga caccaagtag ctctctccag tggcggcgaa 420
67 ggaggaggat cggcgtgacg tcacaagagc gggggtttta ttttttaciaa ggattgcaga 480
68 aggggtgacgg ggcattggg                                     498
70 <210> SEQ ID NO: 4
71 <211> LENGTH: 1935
72 <212> TYPE: DNA
73 <213> ORGANISM: Mus musculus
75 <400> SEQUENCE: 4
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77 gctgtcgcat cccgggctgc caccgcgcat ggggctctcc tggagccgc gacctccact 120
78 gctgatgac ctgctactgg tgctgtcgtt gtggctgcca cttggagcag gaaactccct 180
79 tgccacagag aacaggtttg tgaacagctg taccagggcc agaaagaaat gcgaggctaa 240
80 tcccgccttg aaggctgcct accagcacct gggctcctgc acctccagtt taagcaggcc 300
81 gctgccctta gaggagtctg ccatgtctgc agactgccta gaggcagcag aacaactcag 360
82 gaacagctct ctgatagact gcaggtgcca tcggcgcag aagcaccaag ctacctgtct 420
83 ggacatttat tggaccgttc accctgcccg aagccttggg gactacgagt tggatgtctc 480
84 accctatgaa gacacagtga ccagcaaacc ctggaaaatg aatcttagca agttgaacat 540
85 gctcaaacca gactcggacc tctgcctcaa atttgctatg ctgtgtactc ttcacgacaa 600
86 gtgtgaccgc ctgcgcaagg cctacgggga ggcattgctc gggatccgct gccagcgcca 660
87 cctctgccta gccagctgc gctccttctt tgagaaggca gcagagtccc acgctcaggg 720
88 tctgtgctg tgccctgtg caccagaaga tcggggctgt ggggagcggc ggcgtaacac 780
89 catcgcccc agttgcgccc tgccttctgt aacccccaat tgcctggatc tgcggagctt 840
90 ctgccgtgcg gaccctttgt gcagatcacg cctgatggac ttccagaccc actgtcatcc 900
91 tatggacatc cttgggactt gtgcaactga gcagtcaga tgtctgcggg catacctggg 960
92 gctgattggg actgccatga ccccaaactt catcagcaag gtcaacacta ctgttgctt 1020
93 aagctgcacc tgccgaggca gcggcaacct acaggacgag tgtgaacagc tggaaaggtc 1080
94 cttctcccag aatccctgcc tcgtggaggc cattgcagct aagatgcgtt tccacagaca 1140
95 gctcttctcc caggactggg cagactctac tttttcagtg gtgcagcagc agaacagcaa 1200
96 cctgctctg agactgcagc ccaggctacc cattctttct ttctccatcc ttccttgat 1260
97 tctgtgcag acctctgtgt agctgggctt cctcagggtc ctttgtctc tccaccacac 1320
98 ccagactgat ttgcagcctg tgggtggaga gaactcgcca gcctgtggaa gaagacgcag 1380
99 cgtgctacac agcaaccgga aaccaaccag gcattccgca gcacatcccg tctgctccag 1440
100 aagaggtctt agaagtgagg gctgtgacct ttccgacctt gagcggctag ttttcaaacc 1500
101 tcccttgccc ctgcttcctt ctggctcagg ctgctcctcc ttaggacttt gtgggtccag 1560
102 ttttgcttcc tggtctgatg gtgattagcg gtcacacctc agcgttctt cctgtttccc 1620
103 aggaccaccc agaggctaag gaatcagtca ttccctgttg ctttctccag gaaggcaggc 1680
104 taagggttct gaggtgactg agaaaaatgt ttcccttggg tggaaaggctg gtgctccagc 1740
105 ctccacgtcc ctctgaatgg aagataaaaa cctgctgggtg tcttgactgc tctgccaggc 1800
106 aatcctgaac atttgggcat gaagagctaa agtctttggg tcttgtttaa ctccattac 1860
107 tgtccccaaa ttcccctagt cccttgggtc atgattaaac attttgactt aaaaaaaaaa 1920
108 aaaaaaaaaa aaaaaa                                     1935
110 <210> SEQ ID NO: 5
111 <211> LENGTH: 397
112 <212> TYPE: PRT
113 <213> ORGANISM: Mus musculus
115 <400> SEQUENCE: 5
116 Met Gly Leu Ser Trp Ser Pro Arg Pro Pro Leu Leu Met Ile Leu Leu
117 1 5 10 15

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118 Leu Val Leu Ser Leu Trp Leu Pro Leu Gly Ala Gly Asn Ser Leu Ala
119      20      25      30
120 Thr Glu Asn Arg Phe Val Asn Ser Cys Thr Gln Ala Arg Lys Lys Cys
121      35      40      45
122 Glu Ala Asn Pro Ala Cys Lys Ala Ala Tyr Gln His Leu Gly Ser Cys
123      50      55      60
124 Thr Ser Ser Leu Ser Arg Pro Leu Pro Leu Glu Glu Ser Ala Met Ser
125 65      70      75      80
126 Ala Asp Cys Leu Glu Ala Ala Glu Gln Leu Arg Asn Ser Ser Leu Ile
127      85      90      95
128 Asp Cys Arg Cys His Arg Arg Met Lys His Gln Ala Thr Cys Leu Asp
129      100     105     110
130 Ile Tyr Trp Thr Val His Pro Ala Arg Ser Leu Gly Asp Tyr Glu Leu
131      115     120     125
132 Asp Val Ser Pro Tyr Glu Asp Thr Val Thr Ser Lys Pro Trp Lys Met
133      130     135     140
134 Asn Leu Ser Lys Leu Asn Met Leu Lys Pro Asp Ser Asp Leu Cys Leu
135 145      150     155     160
136 Lys Phe Ala Met Leu Cys Thr Leu His Asp Lys Cys Asp Arg Leu Arg
137      165     170     175
138 Lys Ala Tyr Gly Glu Ala Cys Ser Gly Ile Arg Cys Gln Arg His Leu
139      180     185     190
140 Cys Leu Ala Gln Leu Arg Ser Phe Phe Glu Lys Ala Ala Glu Ser His
141      195     200     205
142 Ala Gln Gly Leu Leu Leu Cys Pro Cys Ala Pro Glu Asp Ala Gly Cys
143      210     215     220
144 Gly Glu Arg Arg Arg Asn Thr Ile Ala Pro Ser Cys Ala Leu Pro Ser
145 225      230     235     240
146 Val Thr Pro Asn Cys Leu Asp Leu Arg Ser Phe Cys Arg Ala Asp Pro
147      245     250     255
148 Leu Cys Arg Ser Arg Leu Met Asp Phe Gln Thr His Cys His Pro Met
149      260     265     270
150 Asp Ile Leu Gly Thr Cys Ala Thr Glu Gln Ser Arg Cys Leu Arg Ala
151      275     280     285
152 Tyr Leu Gly Leu Ile Gly Thr Ala Met Thr Pro Asn Phe Ile Ser Lys
153      290     295     300
154 Val Asn Thr Thr Val Ala Leu Ser Cys Thr Cys Arg Gly Ser Gly Asn
155 305      310     315     320
156 Leu Gln Asp Glu Cys Glu Gln Leu Glu Arg Ser Phe Ser Gln Asn Pro
157      325     330     335
158 Cys Leu Val Glu Ala Ile Ala Ala Lys Met Arg Phe His Arg Gln Leu
159      340     345     350
160 Phe Ser Gln Asp Trp Ala Asp Ser Thr Phe Ser Val Val Gln Gln Gln
161      355     360     365
162 Asn Ser Asn Pro Ala Leu Arg Leu Gln Pro Arg Leu Pro Ile Leu Ser
163      370     375     380
164 Phe Ser Ile Leu Pro Leu Ile Leu Leu Gln Thr Leu Trp
165 385      390     395
166 <210> SEQ ID NO: 6

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169 <211> LENGTH: 460
170 <212> TYPE: PRT
171 <213> ORGANISM: Homo sapiens
173 <400> SEQUENCE: 6
174 Met Phe Leu Ala Thr Leu Tyr Phe Ala Leu Pro Leu Leu Asp Leu Leu
175 1 5 10 15
176 Leu Ser Ala Glu Val Ser Gly Gly Asp Arg Leu Asp Cys Val Lys Ala
177 20 25 30
178 Ser Asp Gln Cys Leu Lys Glu Gln Ser Cys Ser Thr Lys Tyr Arg Thr
179 35 40 45
180 Leu Arg Gln Cys Val Ala Gly Lys Glu Thr Asn Phe Ser Leu Ala Ser
181 50 55 60
182 Gly Leu Glu Ala Lys Asp Glu Cys Arg Ser Ala Met Glu Ala Leu Lys
183 65 70 75 80
184 Gln Lys Ser Leu Tyr Asn Cys Arg Cys Lys Arg Gly Met Lys Lys Glu
185 85 90 95
186 Lys Asn Cys Leu Arg Ile Tyr Trp Ser Met Tyr Gln Ser Leu Gln Gly
187 100 105 110
188 Asn Asp Leu Leu Glu Asp Ser Pro Tyr Glu Pro Val Asn Ser Arg Leu
189 115 120 125
190 Ser Asp Ile Phe Arg Val Val Pro Phe Ile Ser Val Glu His Ile Pro
191 130 135 140
192 Lys Gly Asn Asn Cys Leu Asp Ala Ala Lys Ala Cys Asn Leu Asp Asp
193 145 150 155 160
194 Ile Cys Lys Lys Tyr Arg Ser Ala Tyr Ile Thr Pro Cys Thr Thr Ser
195 165 170 175
196 Val Ser Asn Asp Val Cys Asn Arg Arg Lys Cys His Lys Ala Leu Arg
197 180 185 190
198 Gln Phe Phe Asp Lys Val Pro Ala Lys His Ser Tyr Gly Met Leu Phe
199 195 200 205
200 Cys Ser Cys Arg Asp Ile Ala Cys Thr Glu Arg Arg Arg Gln Thr Ile
201 210 215 220
202 Val Pro Val Cys Ser Tyr Glu Glu Arg Glu Lys Pro Asn Cys Leu Asn
203 225 230 235 240
204 Leu Gln Asp Ser Cys Lys Thr Asn Tyr Ile Cys Arg Ser Arg Leu Ala
205 245 250 255
206 Asp Phe Phe Thr Asn Cys Gln Pro Glu Ser Arg Ser Val Ser Ser Cys
207 260 265 270
208 Leu Lys Glu Asn Tyr Ala Asp Cys Leu Leu Ala Tyr Ser Gly Leu Ile
209 275 280 285
210 Gly Thr Val Met Thr Pro Asn Tyr Ile Asp Ser Ser Ser Leu Ser Val
211 290 295 300
212 Ala Pro Trp Cys Asp Cys Ser Asn Ser Gly Asn Asp Leu Glu Glu Cys
213 305 310 315 320
214 Leu Lys Phe Leu Asn Phe Phe Lys Asp Asn Thr Cys Leu Lys Asn Ala
215 325 330 335
216 Ile Gln Ala Phe Gly Asn Gly Ser Asp Val Thr Val Trp Gln Pro Ala
217 340 345 350
218 Phe Pro Val Gln Thr Thr Thr Ala Thr Thr Thr Thr Ala Leu Arg Val

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Output Set: N:\CRF3\08132001\I272835B.raw

```

219          355          360          365
220 Lys Asn Lys Pro Leu Gly Pro Ala Gly Ser Glu Asn Glu Ile Pro Thr
221          370          375          380
222 His Val Leu Pro Pro Cys Ala Asn Leu Gln Ala Gln Lys Leu Lys Ser
223 385          390          395          400
224 Asn Val Ser Gly Asn Thr His Leu Cys Ile Ser Asn Gly Asn Tyr Glu
225          405          410          415
226 Lys Glu Gly Leu Gly Ala Ser Ser His Ile Thr Thr Lys Ser Met Ala
227          420          425          430
228 Ala Pro Pro Ser Cys Gly Leu Ser Pro Leu Leu Val Leu Val Val Thr
229          435          440          445
230 Ala Leu Ser Thr Leu Leu Ser Leu Thr Glu Thr Ser
231          450          455          460
234 <210> SEQ ID NO: 7
235 <211> LENGTH: 464
236 <212> TYPE: PRT
237 <213> ORGANISM: Homo sapiens
239 <400> SEQUENCE: 7
240 Met Ile Leu Ala Asn Val Phe Phe Leu Phe Phe Phe Leu Asp Glu Thr
241 1          5          10          15
242 Leu Arg Ser Leu Ala Ser Pro Ser Ser Leu Gln Asp Pro Glu Leu His
243          20          25          30
244 Gly Trp Arg Pro Pro Val Asp Cys Val Arg Ala Asn Glu Leu Cys Ala
245          35          40          45
246 Ala Glu Ser Asn Cys Ser Ser Arg Tyr Arg Thr Leu Arg Gln Cys Leu
247          50          55          60
248 Ala Gly Arg Asp Arg Asn Thr Met Leu Ala Asn Lys Glu Cys Gln Ala
249 65          70          75          80
250 Ala Leu Glu Val Leu Gln Glu Ser Pro Leu Tyr Asp Cys Arg Cys Lys
251          85          90          95
252 Arg Gly Met Lys Lys Glu Leu Gln Cys Leu Gln Ile Tyr Trp Ser Ile
253          100          105          110
254 His Leu Gly Leu Thr Glu Gly Glu Glu Phe Tyr Glu Ala Ser Pro Tyr
255          115          120          125
256 Glu Pro Val Thr Ser Arg Leu Ser Asp Ile Phe Arg Leu Ala Ser Ile
257          130          135          140
258 Phe Ser Gly Thr Gly Ala Asp Pro Val Val Ser Ala Lys Ser Asn His
259 145          150          155          160
260 Cys Leu Asp Ala Ala Lys Ala Cys Asn Leu Asn Asp Asn Cys Lys Lys
261          165          170          175
262 Leu Arg Ser Ser Tyr Ile Ser Ile Cys Asn Arg Glu Ile Ser Pro Thr
263          180          185          190
264 Glu Arg Cys Asn Arg Arg Lys Cys His Lys Ala Leu Arg Gln Phe Phe
265          195          200          205
266 Asp Arg Val Pro Ser Glu Tyr Thr Tyr Arg Met Leu Phe Cys Ser Cys
267          210          215          220
268 Gln Asp Gln Ala Cys Ala Glu Arg Arg Arg Gln Thr Ile Leu Pro Ser
269 225          230          235          240
270 Cys Ser Tyr Glu Asp Lys Glu Lys Pro Asn Cys Leu Asp Leu Arg Gly

```

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

VERIFICATION SUMMARY

DATE: 08/15/2001

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Input Set : A:\GENENT.065Anewest.txt

Output Set: N:\CRF3\08132001\I272835B.raw

L:448 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10
L:449 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10
L:450 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10
L:451 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10